ABSTRACT OF THE DISCLOSURE

Disclosed is a PIN photodiode used for a light-receiving element for optical communication. The PIN photodiode comprises a gate electrode structure consisting of a gate insulation layer and a gate electrode pad which prevent a bonding layer from being excessively depleted in the lateral direction at the time of applying a negative electric voltage to an electrode that is in contact with the bonding layer. The PIN photodiode allows the control of the electrostatic capacitance of the element by controlling the depletion level of the bonding layer in the lateral direction using the gate electrode pad. Therefore, it is possible to suppress the increase of the electrostatic capacitance and to achieve a high-speed operating property.